

What is claimed is:

1. A vertical requirements development method for developing requirements for a system to be developed, the system to be developed having top-level requirements and being representable by a program specification tree made up of multiple layers of individual system elements, with each lower layer of the multiple layers comprising individual system elements having lower level requirements associated therewith compared to an upper layer, the method comprising the steps of:

based on the top-level requirements, identifying a plurality of system level requirements analyses which, upon satisfaction, comply with the top-level requirements; and

for each system level requirements analysis, allocating specification requirements to each of the individual system elements that contribute to the satisfaction of that system level requirements analysis, regardless of the level of the individual system elements that contribute in the program specification tree.

2. The method of claim 1, further comprising the step of storing the specification requirements allocated to each of the individual system elements digitally in a requirements management database.

3. The method of claim 2, further comprising the step of storing in the requirements management database information linking the specification requirements allocated to each of the individual system elements to the respective system elements.

4. The method of claim 3, further comprising the steps of submitting a query to the requirements management database requesting specification requirements linked to a specified individual system element, and the requirements management database providing an output in response to the query.

5. The method of claim 2, wherein the requirements management database comprises a digital data storage medium and a server executing software for managing data stored in the digital data storage medium.

5 6. The method of claim 1, further comprising the step of subsequently modifying the system level requirements analyses in conjunction with the allocated specification requirements in order to optimize development.

7. A vertical requirements development system for developing
10 requirements for a system to be developed, the system to be developed having top-level requirements and being representable by a program specification tree made up of multiple layers of individual system elements, with each lower layer of the multiple layers comprising individual system elements having lower level requirements associated therewith compared to an upper layer, the system
15 comprising:

a plurality of terminals;

a requirements management database comprising a digital data storage medium and a server executing machine readable code for managing data stored in the digital data storage medium; and

20 a network interconnecting the plurality of terminals and the requirement management database,

wherein based on the top-level requirements, a plurality of system level requirements analyses are identified which, upon satisfaction, comply with the top-level requirements;

25 for each system level requirements analysis, specification requirements are allocated to each of the individual system elements that contribute to the satisfaction of that system level requirements analysis, regardless of the level of the individual system elements that contribute in the program specification tree; and

30 the specification requirements allocated to each of the individual system elements are stored in the requirements management database.

8. The system of claim 7, wherein the terminals are configured to permit users to enter the specification requirements allocated to each of the individual system elements into the requirements management database for storage.

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9. The system of claim 7, wherein the requirements management database also has stored therein information linking the specification requirements allocated to each of the individual system elements to the respective system elements.

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10. The system of claim 9, wherein the terminals are configured to permit users to enter the linking information into the requirements management database for storage.

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11. The system of claim 9, wherein the requirements management database is configured to receive a query requesting specification requirements linked to a specified individual system element, and the requirements management database is programmed to provide automatically an output in response to the query.

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12. The system of claim 11, wherein the terminals are configured to permit users to enter the query.

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13. The system of claim 12, wherein the requirements management database is configured to provide the output to at least one of the terminals.

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14. A database structure useful in association with a vertical requirements development method for developing requirements for a system to be developed, the system to be developed having top-level requirements and being representable by a program specification tree made up of multiple layers of individual system elements, with each lower layer of the multiple layers comprising individual system elements having lower level requirements associated therewith compared to an upper layer, the method comprising the

steps of based on the top-level requirements, identifying a plurality of system level requirements analyses which, upon satisfaction, comply with the top-level requirements; and for each system level requirements analysis, allocating specification requirements to each of the individual system elements that contribute to the satisfaction of that system level requirements analysis, regardless of the level of the individual system elements that contribute in the program specification tree, wherein the database structure comprises:

data storage area for storing the specification requirements allocated to each of the individual system elements digitally in a requirements management database.

15. The database structure of claim 14, further comprising additional data storage area for storing information linking the specification requirements allocated to each of the individual system elements to the respective system elements.